OIPE JC22
FEB 05 2004
PATENT & TRADEMARK OFFICE

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Tang, et al. Art Unit : 1651
Serial No. : 10/680,730 Examiner : Unknown
Filed : October 6, 2003
Title : METHOD AND COMPOSITIONS FOR DESTABILIZING MICROTUBULES

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

In accordance with the duty of disclosure as set forth in 37 C.F.R. §1.56, Applicants hereby submit the following information in conformance with 37 C.F.R. §§ 1.97 and 1.98. Pursuant to 37 C.F.R. § 1.98, a copy of each of the documents cited is enclosed. However, copies of the listed U.S. patents and U.S. patent application publications are not enclosed since it is no longer required to submit copies of cited U.S. patents and U.S. patent application publications in national patent applications filed after June 30, 2003, according to the July 11, 2003 wavier of the requirement.

United States Patents/Patent Publications

1. U.S. Patent Application No. 20030032771A1, published February 13, 2003.

2. U.S. Patent Application No. 20030050233A1, published March 13, 2003.

3. U.S. Patent Application No. 20030083261A1, published May 1, 2003.

Articles

4. Belmont, L.D. and Mitchison, T.J. (1996). Identification of a protein that interacts with tubulin dimers and increases the catastrophe rate of microtubules. *Cell*, **84**, 623-631.

5. Cassimeris, L. and Spittle, C. (2001). Regulation of microtubule-associated proteins. *Int. Rev. Cytol.*, **210**, 163-226.

CERTIFICATE OF MAILING BY EXPRESS MAIL

Express Mail Label No. EV173621723US

February 5, 2004
Date of Deposit

6. Cassimeris, L. (2002). The oncoprotein18/stathmin family of microtubule destabilizers. *Curr. Opin. Cell. Biol.*, **14**, 18-24.

7. Conboy, J.G., *et al.* (1988). Multiple protein 4.1 isoforms produced by alternative splicing in human erythroid cells. *Proc. Natl. Acad. Sci. USA*, **85**, 9062-9065.

8. Conboy, J.G., *et al.* (1991). Tissue- and development-specific alternative RNA splicing regulates expression of multiple isoforms of erythroid membrane protein 4.1. *J. Biol. Chem.*, **266**, 8273-8280.

9. DeCárcer, G., *et al.* (1995). Protein 4.1 is a component of the nuclear matrix of mammalian cells. *Biochem J.*, **312 (Pt 3)**, 871-877.

10. Desai, A., *et al.* (1999). Kin I kinesins are microtubule-destabilizing enzymes. *Cell*, **96**, 69-78.

11. Erickson, H.P. and Stoffler, D. (1996). Protofilaments and rings, two conformations of the tubulin family conserved from bacterial FtsZ to α/β and γ tubulin. *J. Cell. Biol.*, **135**, 5-8.

12. Hartman, J.J., *et al.* (1998). Katanin, a microtubule-severing protein, is a novel AAA ATPase that targets to the centrosome using a WD40-containing subunit. *Cell*, **93**, 277-287.

13. Heald, R. and Nogales, E. (2002). Microtubule dynamics. *J. Cell Sci.*, **115**, 3-4.

14. Huang, J.P., *et al.* (1993). Genomic structure of the locus encoding protein 4.1. Structural basis for complex combinational patterns of tissue-specific alternative RNA splicing. *J. Biol. Chem.*, **268**, 3758-3766.

15. Hung, L.Y., *et al.* (2000). Protein 4.1 R-135 interacts with a novel centrosomal protein (CPAP) which is associated with the γ-tubulin complex. *Mol. Cell Biol.*, **20**, 7813-7825.

16. Hung, L.Y. and Tang, T.K. (2002). A novel centrosomal protein (CPAP) play a role in cell mitosis and genomic stability. Page 115, Program & Abstracts, the 4th Asian-Pacific Organization for Cell Biology Congress, November 3-6, 2002.

17. Krauss, S.W., *et al.* (1997). Structural protein 4.1 in the nucleus of human cells: dynamic rearrangements during cell division. *J. Cell Biol.*, **137**, 275-289.

18. Krauss, S.W., *et al.* (1997). Structural protein 4.1 is located in mammalian centrosomes. *Proc. Natl. Acad. Sci. USA*, **94**, 7297-7302.

19. Mattagajasingh, S.N., *et al.* (1999). A nonerythroid isoform of protein 4.1R interacts with the nuclear mitotic apparatus (NuMA) protein. *J. Cell Biol.*, **145**, 29-43.

20. McCabe, P.M., *et al.* (1999). The influence of dsRNA viruses on the biology of plant pathogenic fungi. *Trends Microbial.*, 7:377-81.

21. McNally, F.J. and Vale, R.D. (1993). Identification of katanin, an ATPase that severs and disassembles stable microtubules. *Cell*, **75**, 419-429.

22. Peng, B., *et al.* (2002). CPAP is a novel stat5-interacting cofactor that augments stat5-mediated transcriptional activity. *Mol. Endocrinol.*, **16**, 2019-2033.

23. Pérez-Ferreiro, C.M., *et al.* (2001). 4.1R proteins associate with interphase microtubules in human T cells: a 4.1R constitutive region is involved in tubulin binding. *J. Biol. Chem.*, **276**, 44785-44791.

24. Rao, J.S. (2003). Molecular mechanisms of glioma invasiveness: the role of proteases. *Nat. Rev. Cancer*, **3**:489-501.

25. Rochefort, H., *et al.* (1990). Cathepsin D in breast cancer: from molecular and cellular biology to clinical applications. *Cancer Cells*, **2**:383-88.

26. Schiebel, E. (2000). γ-tubulin complexes: binding to the centrosome, regulation and microtubule nucleation. *Curr. Opin. Cell Biol.*, **12**, 113-118.

27. Tang, T.K., *et al.* (1988). Selective expression of an erythroid-specific isoform of protein 4.1. *Proc. Natl. Acad. Sci. USA*, **85**, 3713-3717.

28. Tang, T.K., *et al.* (1990). Heterogeneity of mRNA and protein products arising from the protein 4.1 gene in erythroid and nonerythroid tissues. *J. Cell Biol.*, **110**, 617-624.

29. Todd, S., *et al.* (2000). HIV protease as a target for retrovirus vector-mediated gene therapy. *Biochim. Biophys. Acta.*, **1477(l2)**:168-188.

30. Walczak, C.E., *et al.* (1996). XKCM1: a Xenopus kinesin-related protein that regulates microtubule dynamics during mitotic spindle assembly. *Cell*, **84**, 37-47.

31. Zheng, Y., *et al.* (1995). Nucleation of microtubule assembly by a γ-tubulin-containing ring complex. *Nature*, **378**, 578-583.

This Information Disclosure Statement is being submitted before any office action on the merit is issued. Consequently, no fee is required pursuant to 37 C.F.R. §1.97(b).

By citing the above references, Applicants do not acquiesce or admit that any of these documents is "prior art" under 35 U.S.C. Applicants specifically reserve the right, where appropriate, to antedate any of the cited documents by an appropriate showing under 37 C.F.R. §1.131, §1.604, §1.608 or any other suitable means.

To assist the Examiner, the documents are listed on the attached form PTO-1449. It is respectfully requested that an Examiner initialed copy of this form be returned to the undersigned. Please apply any charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

Date: Feb. 5, 2004

Ping F. Hwung
Reg. No. 44,164

Fish & Richardson P.C.
500 Arguello Street, Suite 500
Redwood City, California 94063
Telephone: (650) 839-5070
Facsimile: (650) 839-5071

OIPE JC22 FEB 05 2004 PATENT & TRADEMARK OFFICE

Substitute Form PTO-1449 (Modified) | U.S. Department of Commerce Patent and Trademark Office

Information Disclosure Statement by Applicant
(Use several sheets if necessary)

(37 CFR §1.98(b))

Attorney's Docket No.	Application No.
16743-002001 / 12A-920429	10/680,730
Applicant	
Tang, et al.	
Filing Date	**Group Art Unit**
October 6, 2003	1651

U.S. Patent Documents

Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	AA	20030032771A1	02/13/2003				
	AB	20030050233A1	03/13/2003				
	AC	20030083261A1	05/01/2003				
	AD						

Foreign Patent Documents or Published Foreign Patent Applications

Examiner Initial	Desig. ID	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation Yes	Translation No
	AE							
	AF							
	AG							
	AH							

Other Documents (include Author, Title, Date, and Place of Publication)

Examiner Initial	Desig. ID	Document
	AI	Belmont, L.D. and Mitchison, T.J. (1996). Identification of a protein that interacts with tubulin dimers and increases the catastrophe rate of microtubules. *Cell*, **84**, 623-631.
	AJ	Cassimeris, L. and Spittle, C. (2001). Regulation of microtubule-associated proteins. *Int. Rev. Cytol.*, **210**, 163-226.
	AK	Cassimeris, L. (2002). The oncoprotein18/stathmin family of microtubule destabilizers. *Curr. Opin. Cell Biol.*, **14**, 18-24.
	AL	Conboy, J.G., *et al.* (1988). Multiple protein 4.1 isoforms produced by alternative splicing in human erythroid cells. *Proc. Natl. Acad. Sci. USA*, **85**, 9062-9065.
	AM	Conboy, J.G., *et al.* (1991). Tissue- and development-specific alternative RNA splicing regulates expression of multiple isoforms of erythroid membrane protein 4.1. *J. Biol. Chem.*, **266**, 8273-8280.
	AN	DeCárcer, *et al.* (1995). Protein 4.1 is a component of the nuclear matrix of mammalian cells. *Biochem J.*, **312 (Pt 3)** 871-877.
	AO	Desai, A., *et al.* (1999). Kin I kinesins are microtubule-destabilizing enzymes. *Cell*, **96**, 69-78.
	AP	Erickson, H.P. and Stoffler, D. (1996). Protofilaments and rings, two conformations of the tubulin family conserved from bacterial FtsZ to α/β and γ tubulin. *J. Cell Biol.*, **135**, 5-8.
	AQ	Hartman, J.J., *et al.* (1998). Katanin, a microtubule-severing protein, is a novel AAA ATPase that targets to the centrosome using a WD40-containing subunit. *Cell*, **93**, 277-287.
	AR	Heald, R. and Nogales, E. (2002). Microtubule dynamics. *J Cell Sci*, **115**, 3-4.

Examiner Signature	Date Considered

EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

CIPE JC22 3rd FEB 05 2004 PATENT & TRADEMARK OFFICE

Substitute Form PTO-1449 (Modified)	U.S. Department of Commerce Patent and Trademark Office	Attorney's Docket No. 16743-002001 / 12A-920429	Application No. 10/680,730
Information Disclosure Statement by Applicant (Use several sheets if necessary)		Applicant: Tang, et al.	
(37 CFR §1.98(b))		Filing Date: October 6, 2003	Group Art Unit: 1651

Other Documents (include Author, Title, Date, and Place of Publication)

Examiner Initial	Desig. ID	Document
	AS	Huang, J.P., *et al.* (1993). Genomic structure of the locus encoding protein 4.1. Structural basis for complex combinational patterns of tissue-specific alternative RNA splicing. *J. Biol. Chem.*, **268**, 3758-3766.
	AT	Hung, L.Y., *et al.* (2000). Protein 4.1 R-135 interacts with a novel centrosomal protein (CPAP) which is associated with the γ-tubulin complex. *Mol. Cell Biol.*, **20**, 7813-7825.
	AU	Hung, L.Y. and Tang, T.K. (2002). A novel centrosomal protein (CPAP) play a role in cell mitosis and genomic stability. Page 115, Program & Abstracts, the 4th Asian-Pacific Organization for Cell Biology Congress, November 3-6, 2002.
	AV	Krauss, S.W., *et al.* (1997). Structural protein 4.1 in the nucleus of human cells: dynamic rearrangements during cell division. *J. Cell Biol.*, **137**, 275-289.
	AW	Krauss, S.W., *et al.* (1997). Structural protein 4.1 is located in mammalian centrosomes. *Proc. Natl. Acad. Sci. USA*, **94**, 7297-7302.
	AX	Mattagajasingh, S.N., *et al.* (1999). A nonerythroid isoform of protein 4.1R interacts with the nuclear mitotic apparatus (NuMA) protein. *J. Cell Biol.*, **145**, 29-43.
	AY	McCabe, P.M., *et al.* (1999). The influence of dsRNA viruses on the biology of plant pathogenic fungi. *Trends Microbial.* 7:377-81.
	AZ	McNally, F.J. and Vale, R.D. (1993). Identification of katanin, an ATPase that severs and disassembles stable microtubules. *Cell*, **75**, 419-429.
	AAA	Peng, B., *et al.* (2002). CPAP is a novel stat5-interacting cofactor that augments stat5-mediated transcriptional activity. *Mol. Endocrinol.*, **16**, 2019-2033.
	ABB	Pérez-Ferreiro, C.M., *et al.* (2001). 4.1R proteins associate with interphase microtubules in human T cells: a 4.1R constitutive region is involved in tubulin binding. *J. Biol. Chem.*, **276**, 44785-44791.
	ACC	Rao, J.S. (2003). Molecular mechanisms of glioma invasiveness: the role of proteases. *Nat. Rev. Cancer*, **3**:489-501.
	ADD	Rochefort, H., *et al.* (1990). Cathepsin D in breast cancer: from molecular and cellular biology to clinical applications. *Cancer Cells*, **2**:383-88.
	AEE	Schiebel, E. (2000). γ-tubulin complexes: binding to the centrosome, regulation and microtubule nucleation. *Curr. Opin. Cell Biol.*, **12**, 113-118.
	AFF	Tang, T.K., *et al.* (1988). Selective expression of an erythroid-specific isoform of protein 4.1. *Proc. Natl. Acad. Sci. USA*, **85**, 3713-3717.
	AGG	Tang, T.K., *et al.* (1990). Heterogeneity of mRNA and protein products arising from the protein 4.1 gene in erythroid and nonerythroid tissues. *J. Cell Biol.*, **110**, 617-624.
	AHH	Todd, S., *et al.* (2000). HIV protease as a target for retrovirus vector-mediated gene therapy. *Biochim. Biophys. Acta.*, **1477(12)**:168-188.
	AII	Walczak, C.E., *et al.* (1996). XKCM1: a Xenopus kinesin-related protein that regulates microtubule dynamics during mitotic spindle assembly. *Cell*, **84**, 37-47.
	AJJ	Zheng, Y., *et al.* (1995). Nucleation of microtubule assembly by a γ-tubulin-containing ring complex. *Nature*, **378**, 578-583.

Examiner Signature	Date Considered

EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.